GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis Evaluation Date: 23-Mar-17 Job ID: Former Tank Farm Area Facility Name: BMS Humacao, PR Conducted By: Terry Taylor Constituent: C11-C22 Aromatics Concentration Units: ug/L MW-18 Sampling Point ID: MW-3 MW-17 C11-C22 AROMATICS CONCENTRATION (ug/L) 1-Mar-16 181 1-Jun-16 1-Sep-16 167 263 100 5 10 12 13 14 15 17 18 19 Coefficient of Variation: Mann-Kendall Statistic (S): Confidence Factor: **Concentration Trend:** Stable Decreasing Stable 1000 -MW-3 -MW-17 Concentration (ug/L) -MW-18 100 10 01/16 03/16 05/16 06/16 08/16 10/16 11/16 01/17 **Sampling Date**

Notes

- 1. At least four independent sampling events per well are required for calculating the trend. Methodology is valid for 4 to 40 samples.
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing;
 ≥ 90% = Probably Increasing or Probably Decreasing;
 < 90% and S>0 = No Trend;
 < 90%, S≤0, and COV ≥ 1 = No Trend;
 < 90% and COV < 1 = Stable.
- 3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, Ground Water, 41(3):355-367, 2003.

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